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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,070	09/22/2006	Bahman Taheri	AMN P0005	2818
26360 7590 08/28/2008 RENNER KENNER GREIVE BOBAK TAYLOR & WEBER FIRST NATIONAL TOWER FOURTH FLOOR 106 S. MAIN STREET AKRON, OH 44308				
EXAMINER DUONG, THOI V				
ART UNIT 2871		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/554,070

Applicant(s)

TAHERI ET AL.

Examiner

THOI V. DUONG

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)
Paper No(s)/Mail Date 9/18/06 & 9/28/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the Preliminary Amendment filed October 21, 2004.

Accordingly, new claims 25-36 were added. Currently, claims 1-36 are pending in this application.

Claim Objections

2. Claim 21 is objected to because of the following informalities: in line 1, it should be --said formable member-- instead of "said elongated member". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hama (US 5,532,705).

Re claim 1, as shown in Figs. 1A and 2, Hama discloses an accessory article 1 incorporating liquid crystal materials, comprising:

at least one liquid crystal cell 3; and

at least one formable member 2a, 2b (wrist bands) for carrying said at least one liquid crystal cell at an end thereof (col. 6, lines 35-41).

Re claim 2, as shown in Fig. 1B, the article further comprises a driving circuit 13 (antenna assembly) connected to said at least one liquid crystal cell to control the appearance thereof (col. 6, lines 42-56).

Re claim 3, as shown in Fig. 1A, the article further comprises a clasp 1f for connecting distal ends of said formable members 2a and 2b to one another.

Re claim 5, said formable member is an insulated conductor (see also Fig. 15).

Re claim 21, said formable member is flexible (see also Fig. 15).

5. Claims 1, 2, 6-9, 12, 13 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Moddel et al. (Moddel, US 5,943,104).

Re claim 1, as shown in Figs. 1 and 2, Moddel discloses an accessory article incorporating liquid crystal materials, comprising:

at least one liquid crystal cell 14; and

at least one formable member 12 (frame) for carrying said at least one liquid crystal cell at an end thereof.

Re claim 2, as shown in Figs. 1 and 2, the article further comprises a driving circuit 16/26 connected to said at least one liquid crystal cell to control the appearance thereof (col. 1, lines 17-24 and 44-48 ; and col. 2, lines 18-24).

Re claim 6, as shown in Fig. 2, Moddel discloses a liquid crystal cell comprising:

a pair of opposed substrates 18, each said substrate having an electrode 24 disposed thereon and facing the other said substrate with a gap therebetween; and
a liquid crystal material 28 disposed in said gap.

Re claim 7, the liquid crystal cell of Palffy-Muhoray further comprises an alignment layer 18a, 18b disposed on each said electrode,

wherein, re claim 8, said liquid crystal material is chiral (cholesteric) nematic (col. 1, lines 62-64); and

wherein, re claim 9, said liquid crystal material comprises a liquid crystal host and a dye guest (col. 1, lines 49-52).

Re claim 12, as shown in Fig. 2, said driving circuit comprises:

a power supply 16; and

a controller 26 connected to said power supply and said electrodes, said controller applying an electric field to said electrodes so as to alter liquid crystal material and control the appearance thereof (col. 1, lines 44-48 and col. 2, lines 18-24),

wherein, re claim 13, said controller applies said electric field in a predetermined sequence (as a function of the amount of light) (col. 1, lines 44-48).

Re new claim 25, these claims contain the limitations of claims 1, 6-8 and 12 which are rejected as shown above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Durst et al. (Durst, US 6,441,778 B1).

Re claim 4, Hama does not disclose that said clasp carries said driving circuit.

As shown in Figs. 3a-3c and 4, Durst discloses a clasp or buckle arranged for permitting the collar 45 (formable member) to be opened and closed, wherein the clasp carries an object locator 42 comprising driving circuit (col. 6, line 19 through col. 7, line 5).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Hama with the teaching of Durst by rearranging the driving circuit in the clasp in order to obtain a portable device of economical manufacture (see Abstract). Moreover, it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70).

8. Claims 6, 7-9, 12, 13, 24, 25 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Palffy-Muhoray et al. (Palffy-Muhoray, US 6,239,778 B1).

Hama does not disclose the structure of said at least one liquid crystal cell with polarizer-free as recited in claims 6 and 24.

Re claim 6, as shown in Figs. 1A and 1B, Palffy-Muhoray discloses a liquid crystal cell comprising:

a pair of opposed substrates 12a and 12b, each said substrate having an electrode 14a, 14b disposed thereon and facing the other said substrate with a gap 20 therebetween; and

a liquid crystal material 22 disposed in said gap.

Re claim 7, the liquid crystal cell of Palffy-Muhoray further comprises an alignment layer 18a, 18b disposed on each said electrode,

wherein, re claim 8, said liquid crystal material is chiral nematic; and

wherein, re claim 9, said liquid crystal material comprises a liquid crystal host and a dye guest.

Re claim 12, as shown in Figs. 2 and 5 of Hama, said driving circuit comprises:

a power supply 8; and

a controller 5 (circuit board, control circuit 105 in Fig. 5) connected to said power supply and said electrodes, said controller applying an electric field to said electrodes so as to alter liquid crystal material and control the appearance thereof (col. 9, line 55 through col. 10, line 19),

wherein, re claim 13, said controller applies said electric field in a predetermined sequence.

Re claim 24, Palffy-Muhoray discloses that the liquid crystal cell is polarizer-free (see Abstract).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Hama with the teaching of Palffy-Muhoray by employing the structure of the liquid crystal cell with polarizer-free in order to obtain a device capable of continuous attenuation of light transmission without the need for polarizing the light (col. 1, lines 54-56).

Re claims 25 and 36, these claims contain the limitations of claims 1, 6, 12 and 24 which are rejected as shown above.

9. Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Palffy-Muhoray et al. (Palffy-Muhoray, US 6,239,778 B1) as applied to claims 6, 7-9, 12, 13, 24, 25 and 36 above, and further in view of Durst et al. (Durst, US 6,441,778 B1).

Re claim 26, Hama in view of Palffy-Muhoray does not disclose that said clasp carries said driving circuit.

As shown in Figs. 3a-3c and 4, Durst discloses a clasp or buckle arranged for permitting the collar 45 (formable member) to be opened and closed, wherein the clasp carries an object locator 42 comprising driving circuit (col. 6, line 19 through col. 7, line 5).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Hama with the teaching of Durst by rearranging the driving circuit in the clasp in order to obtain a portable device of economical manufacture (see Abstract). Moreover, it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70).

Re claims 27-29, these claims contain the rejected subjects recited in claims 7-9.

10. Claims 6, 7, 9, 12, 13, 15-20, 22, 25 and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Ishii et al. (Ishii, US 5,148,297).

Re claim 18, Hama does not disclose a structure of the liquid crystal cell.

As shown in Fig. 4, Ishii discloses a liquid crystal cell comprising:

a pair of outer substrates 11a, 11b, each said outer substrate having an outer electrode 14a, 14d disposed thereon;

at least one interposed substrate 16 having opposed surfaces, each said opposed surface having an interposed electrode 14b, 14c disposed thereon, said interposed electrodes facing either one of said outer electrodes on another of said interposed electrodes, said outer substrates and said interposed substrates forming gaps therebetween; and

a different liquid crystal material 13a, 13b received in each of said gaps (col. 2, lines 41-64).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Hama with the teaching of Ishii by employing the structure of the liquid crystal cell of Ishii in order to prevent aberration of a display image of adjacent liquid crystal layers caused by a difference of a viewing angle (Abstract).

Re claim 6, as shown in Fig. 4, Ishii discloses a liquid crystal cell comprising:

a pair of opposed substrates 11a and 16, each said substrate having an electrode 14a, 14b disposed thereon and facing the other said substrate with a gap therebetween; and

a liquid crystal material 13a disposed in said gap.

Re claim 7, the liquid crystal cell further comprises an alignment layer (orientation film) disposed on each said electrode (col. 3, lines 31-35 and col. 4, lines 59-65),

wherein, re claim 9, said liquid crystal material comprises a liquid crystal host and a dye guest (col. 4, lines 59-65).

Re claims 12 and 19 as shown in Figs. 2 and 5 of Hama, said driving circuit comprises:

a power supply 8; and

a controller 5 (circuit board, control circuit 105 in Fig. 5) connected to said power supply and said electrodes, said controller applying an electric field to said electrodes so as to alter liquid crystal material and control the appearance thereof (col. 9, line 55 through col. 10, line 19),

wherein, re claims 13 and 20, said controller applies said electric field in a predetermined sequence.

Re claim 22, as shown in Fig. 8 of Ishii, one of said substrates (11b) is reflective (col. 5, line 66 through col. 6, line 4).

Re claims 15-17, as shown in Fig. 8 of Ishii, a layer 15b is disposed on the substrate 11b to alter the appearance of at least selected portions of the cell, wherein said layer is reflective and has light altering properties (col. 5, line 66 through col. 6, line 13).

Re claims 25 and 32-35, these claims contain the limitations of claims 1, 7, 9 and 18-20, which are rejected as shown above.

11. Claims 26, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Ishii et al. (Ishii, US 5,148,297) as applied to

claims 6, 7, 9, 12, 13, 15-20, 22, 25 and 32-35, and further in view of Durst et al. (Durst, US 6,441,778 B1).

Re claim 26, Hama in view of Ishii does not disclose that said clasp carries said driving circuit.

As shown in Figs. 3a-3c and 4, Durst discloses a clasp or buckle arranged for permitting the collar 45 (formable member) to be opened and closed, wherein the clasp carries an object locator 42 comprising driving circuit (col. 6, line 19 through col. 7, line 5).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Hama with the teaching of Durst by rearranging the driving circuit in the clasp in order to obtain a potable device of economical manufacture (see Abstract). Moreover, it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70).

Re claim 27 and 29, these claims contain the limitations of claims 7 and 9 which are rejected as shown above.

12. Claims 10, 11, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Ishii et al. (Ishii, US 5,148,297) as applied to claims 6, 7, 9, 12, 13, 15-20, 22, 25 and 32-35 above, and further in view of Kim et al. (Kim, US 2003/0052838 A1).

Hama as modified in view of Ishii does not disclose that said pair of opposed substrates are curved or doubly curved.

As shown in Figs. 3 and 4, Kim discloses a liquid crystal display device 50 comprising a pair of doubly curved substrates 12 (paragraph 34).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the article of Hama with the teaching of Kim by employing a pair of doubly curved substrates in order to provide a display device with enhanced optical properties and to be compatible with functional fashions (see Abstract and paragraph 40).

13. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Fix et al. (Fix, US 6,466,298 B1).

Hama does not disclose one of said substrates being tinted.

Fix discloses a tinted substrate having a reflective coating disposed thereon for protection against solar radiation (col. 1, lines 1-24).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Hama with the teaching of Fix by having at least one of said substrates being tinted in order to protect against solar radiation and improve visual comfort (col. 11, lines 1-5).

14. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hama (US 5,532,705) in view of Ishii et al. (Ishii, US 5,148,297) as applied to claims 6, 7, 9, 12, 13, 15-20, 22, 25 and 32-35, and further in view of Witt (US 4,106,217).

Hama as modified in view of Ishii does not disclose the electrodes being patterned to generate an indicia when applying an electric field to said electrodes.

However, it is well known in the art that an indicia is used as an indicator system to indicate an operational characteristic as disclosed by Ferguson (col. 3, lines 31-47).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the article of Hama by having the electrodes being patterned to generate an indicia when applying an electric field to said electrodes in order to view a display characteristic (col. 3, lines 31-47).

15. Claims 10, 11, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modell et al. (Modell, US 5,943,104) in view of Kim et al. (Kim, US 2003/0052838 A1).

Modell does not disclose that said pair of opposed substrates are curved or doubly curved as recited in claims 10, 11, 30 and 31.

As shown in Figs. 3 and 4, Kim discloses a liquid crystal display device 50 comprising a pair of doubly curved substrates 12 (paragraph 34).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the article of Hama with the teaching of Kim by employing a pair of doubly curved substrates in order to provide a display device with enhanced optical properties and to be compatible with functional fashions (see Abstract and paragraph 40).

16. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Modell et al. (Modell, US 5,943,104) in view of Witt (US 4,106,217).

Modell does not disclose the electrodes being patterned to generate an indicia when applying an electric field to said electrodes. However, it is well known in the art

that an indicia is used as an indicator system to indicate an operational characteristic as disclosed by Ferguson (col. 3, lines 31-47).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Modell by having the electrodes being patterned to generate an indicia when applying an electric field to said electrodes in order to view a display characteristic (col. 3, lines 31-47).

17. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modell et al. (Modell, US 5,943,104) in view of Ishii et al. (Ishii, US 5,148,297).

Re claim 33, Modell does not disclose a structure of the liquid crystal cell comprising a different liquid crystal material in each of said gap.

As shown in Fig. 4, Ishii discloses a liquid crystal cell comprising:

a pair of outer substrates 11a, 11b, each said outer substrate having an outer electrode 14a, 14d disposed thereon;

at least one interposed substrate 16 having opposed surfaces, each said opposed surface having an interposed electrode 14b, 14c disposed thereon, said interposed electrodes facing either one of said outer electrodes on another of said interposed electrodes, said outer substrates and said interposed substrates forming gaps therebetween; and

a different liquid crystal material 13a, 13b received in each of said gaps (col. 2, lines 41-64).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the article of Modell with the teaching of Ishii by

employing the structure of the liquid crystal cell of Ishii in order to prevent aberration of a display image of adjacent liquid crystal layers caused by a difference of a viewing angle (Abstract).

Re claim 34, as shown in Figs. 1 and 2 of Model, said driving circuit comprises:
a power supply 16; and
a controller 26 connected to said power supply and said electrodes, said controller applying an electric field to said electrodes so as to alter liquid crystal material and control the appearance thereof (col. 2, lines 18-24),
wherein, re claims 32 and 35, said controller applies said electric field in a predetermined sequence (as a function of the amount of light).

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

/Thoi V. Duong/ - Primary Examiner

August 23, 2008